

Intelligent Camera Aided Railway Emergency System (i-CARES)

Technology Transfer Activities

by

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February 2021



Center for Connected Multimodal Mobility (C²M²)



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ACKNOWLEDGMENT

The research team greatly thank C²M² for partially support this project. CSX Corporation and the City of Columbia also provide tremendous support and a lot of useful advice during the development.

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TECHNOLOGY TRANSFER ACTIVITIES

1 Outputs

The project outputs include two conference presentations that analyze vehicle behavior in front of railroad crossings.

1.1 Output #1

Initial results of this project were presented at the 3rd Annual C²M² Fall Conference, October 18, 2019, held at Clemson University

Feng Guo, Yi Wang, and Dimitris Rizos (2019) "Real-Time Traffic Assessment at the Railroad Grade Crossing"

1.2 Output #2

The initial results of this project were presented at the 99th Annual Transportation Research Board Meeting held January 11-15, 2020, in Washington D.C.

Guo, F., Y. Qian, Y. Wang, D. Rizos, S. Wang, and H. Yu., (2020) "Real-Time Traffic Congestion Assessment and Decongestion Time Prediction at Grade Crossing for the First Responders" Transportation Research Board Annual Meeting

2 Outcomes

The primary outcome of this research is a model, which features training that can be used to detect and track vehicles at the grade crossing in real-time.

2.1 Outcome #1

Development of artificial intelligent models that can assess traffic conditions at grade crossings.

3 Impacts

The developed model is the initial effort to develop a sophisticated system that can be used by both the railroads and traffic management departments. CSX has expressed interest in this system.

3.1 Impact #1

The developed model can capture real-time crossing traffic conditions. In case of emergency, i.e. vehicles get stuck at the crossing, this frame can be extracted and shared with the railroads for preventive actions.

3.2 Impact #2

The developed model can help to assess traffic congestion conditions at the crossing, which can be used to improve traffic planning and operation.